DISSERTATIO N REPORT

MENTOR:

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IIHMR UNIVERSITY

m16 LABS

Submitted By:
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MBA-HM 2020-2022
ROLL NO: 1196

m16 LABS

OBSERVATIONAL LEARNING

INTERNSHIP AT META16LABS HEALTHCARE AND ANALYTICS FROM MARCH 1ST TO JUNE 19TH

ORGANIZATION PROFILE

M16 Labs- M16 Labs is a health-tech company that is working towards development and implementation of a Patient Health-Centric Platform to Manage Everyone's Health & Wellness

Rather than breaking up the industry into bits and pieces and solving one specific problem, M16Labs built an umbrella platform which can be adapted both horizontally and vertically depending on the size and scale of the Healthcare Enterprise.

Target Audience include Solo Practices, Small Clinics, Group Practices, Nursing Homes, Diagnostic/Imaging Centres, Large Corporate Hospitals to NGOs delivering healthcare in remote areas and Government Healthcare institutions.

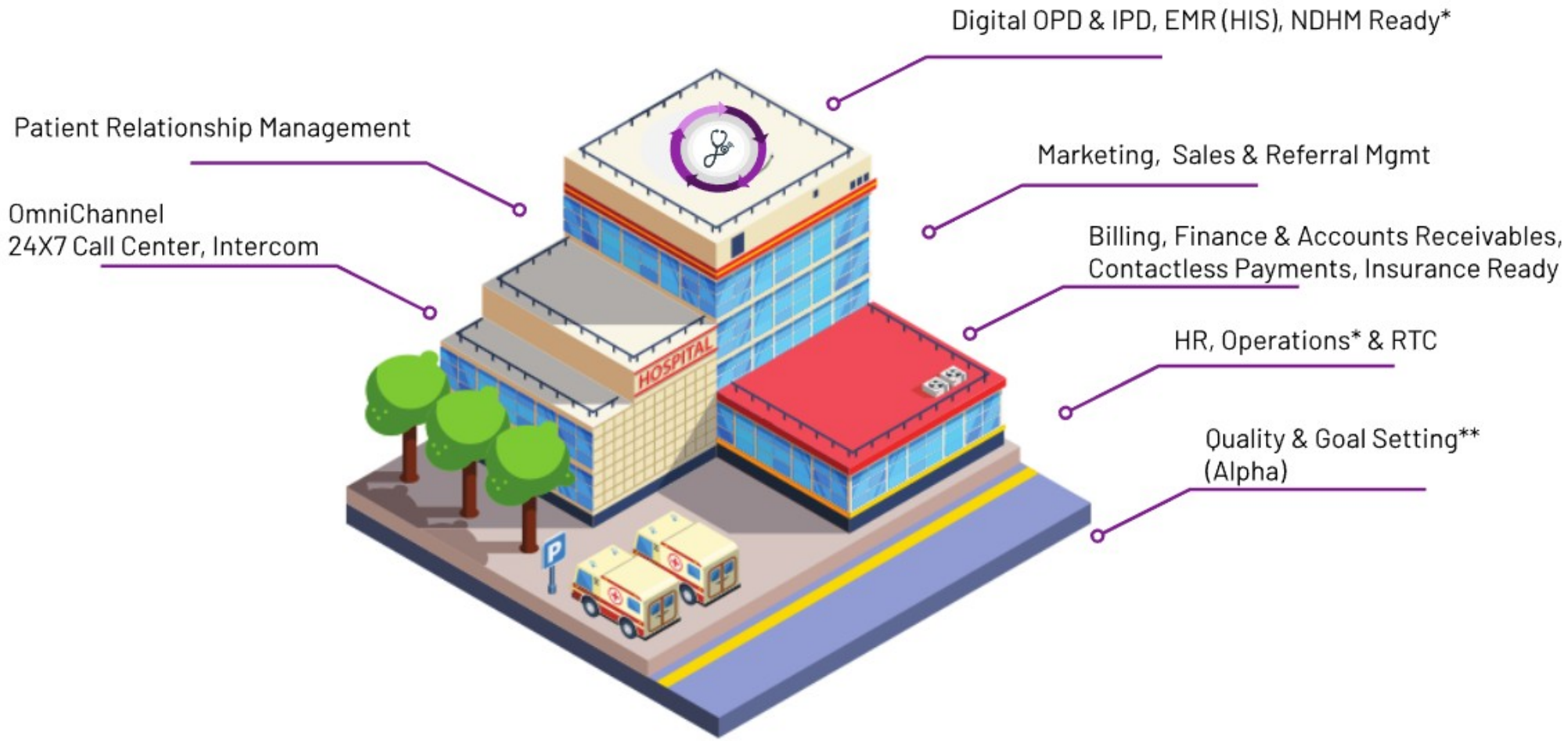
VISION: To be the Patient Health-Centric Platform to Manage Everyone's Health & Wellness

MISSION: #HealthyIndia through #HealthyYou by Making Care & Wellness Accessible

COMPANY GOALS:

1. Create Affordable Healthcare IT Solutions
2. Make Healthcare Solutions Easy for & Accessible to Every Strata of Society
3. Keep Healthcare Data Private & Safe

PRODUCT: MetahOS Operating System



ROLE AND LEARNINGS

Out-patient Department

- To understand the workflow of the OPD in different hospital settings
- To understand the systems workflow required for setting up the processes
- Billing and registration process comparison between legacy systems and metahOS systems
- Communicating with different stake holders and analysing the requirement of the clients
- Understanding end user pain points in systems workflow

In-patient Department

- Implementation of IP systems in a small hospital settings
- Understanding intricate workflows of the hospital from Admission to Discharge process
- Collection of Data required for the implementation of IP systems in the Hospital
- Designed the Discharge Summary and Discharge Bill format for the system
- Communicating with key stake holders during the implementation process
- Documentation of functional requirements and errors while conducting test runs

Pharmacy

- Understanding the workflow of a Hospital Pharmacy
- Understanding the system of Purchase requisition of drugs from a systems standpoint
- Designing the Generation of GRN reports and Purchase logs in the pharmacy module of the system
- Documentation of functional requirements and errors while conducting test runs

Call Center

- Assessment of the requirements of a Medium to large Hospitals Customer relation management CRM system
- Understanding integration points between multiple system and taking role in the integration process with Telecom providers
- Communicating with stake holders such as call center agent and call center Managers
- Designing webform for Health care institutions with functionality's required for providing optimum patient care

Project Report

A Study on Turn around Time of the Discharge Process in Aster Prime Hospital

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Project Management Life Cycle Phases

Project Initiation

1. Preparing a Project Charter
2. Conducting initial assessments on preexisting systems
3. Collecting list of requirements and Data required for the project
4. Creating a current and future state and presenting to the stake holders

Project Planning

1.Define stakeholders.
2.Define roles
3.Set goals
4.Prioritize tasks
5.Assess risks
6.Development phase of product

Project Execution

1Manage workflow for all project tasks.
2Issue management.
3Risk management.
4Manage change orders.
5Manage project communications with all stakeholders.

Project Monitoring

1.Decide how to monitor project.
2.Evaluate reports.
3.Make necessary improvements.
4.Collect and track data.
5.Provide progress updates.
6.Manage expectations.

Project Closure

1. Formally transfer all deliverables
2. Confirm project completion
3. Review all contracts and documentation
4. Release resources
6. Archive documentation

❖ **Rationale:**

- With the advent of Digitization in the current markets, the healthcare industry is no stranger to the changes.
- In today's date patients are preferring for instant information, especially among the younger demographics and are demanding the same from their healthcare providers.
- In response to this emerging opportunity Health IT companies have started customizing and building upon legacy systems to meet Patient demands.
- However, implementation of new technology possess a challenge for Healthcare workers as they need to expand their Knowledge and horizons to meet the demands.

❖ **Study Aim:**

The study aims to investigate the barriers encountered by stakeholders responsible for the implementation of Health systems in Hospital facilities.

❖ **Study Objectives:**

- To find out the hurdles faced by end users while implementing a new system in the Hospital
- To assess the use of EMR to help improve healthcare quality.

METHODOLOGY

RESEARCH QUESTION:

Study on Implementation of Digital experience and their benefits in regard to the current processes of Hospital systems

STUDY DESIGN

Primary research / Qualitative study

SETTING:

Meta16 labs and Healthcare Analytics

Product:

MetahOS Operating System

STUDY POPULATION

- Two 40 bedded Hospitals
- One 300 bedded Hospital

SAMPLE SIZE

132 End users broken down into

- 50 Front desk users
- 25 Doctor Secretaries
- 35 Call Centre Agents
- 12 Admission counter Users
- 10 Admin users

SAMPLING METOD

Simple Random Sampling

INCLUSION CRITERIA

Call centre CRM (Customer relation Systems) /
OPD Front office systems

EXCLUSION CRITERIA

IPD/Telehealth

STUDY TOOLS

Excel

DURATION OF STUDY

MARCH 1ST TO JUNE 19TH

DATA COLLECTION PROCEDURE

Assessments, E Workbooks, UAT Reports (User Acceptance test)

DATA ANALYSIS PLAN:

2. Microsoft Excel-

Used for carrying out initial Assessments, charting out an E workbook with all the information required for the project and creating UAT spreadsheets used for surveys

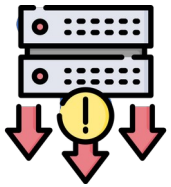
3. Smart Task

Used for creating a Project plan, assigning tasks, creating Reports and analytics along with setting of timelines for the tasks to be completed

UAT Reports (User Acceptance test)

The UAT Report will be the Primary Source of Data collection as it directly involves the end users Acceptance to a Particular process conducted on the system

The UAT is customized by the Project manager to meet all scenarios faced by the end user and is reviewed by the Hospital Administration.



Each Scenario is further broken down into number of steps which the system has in its process , which is validated by the end user as Pass or Fail

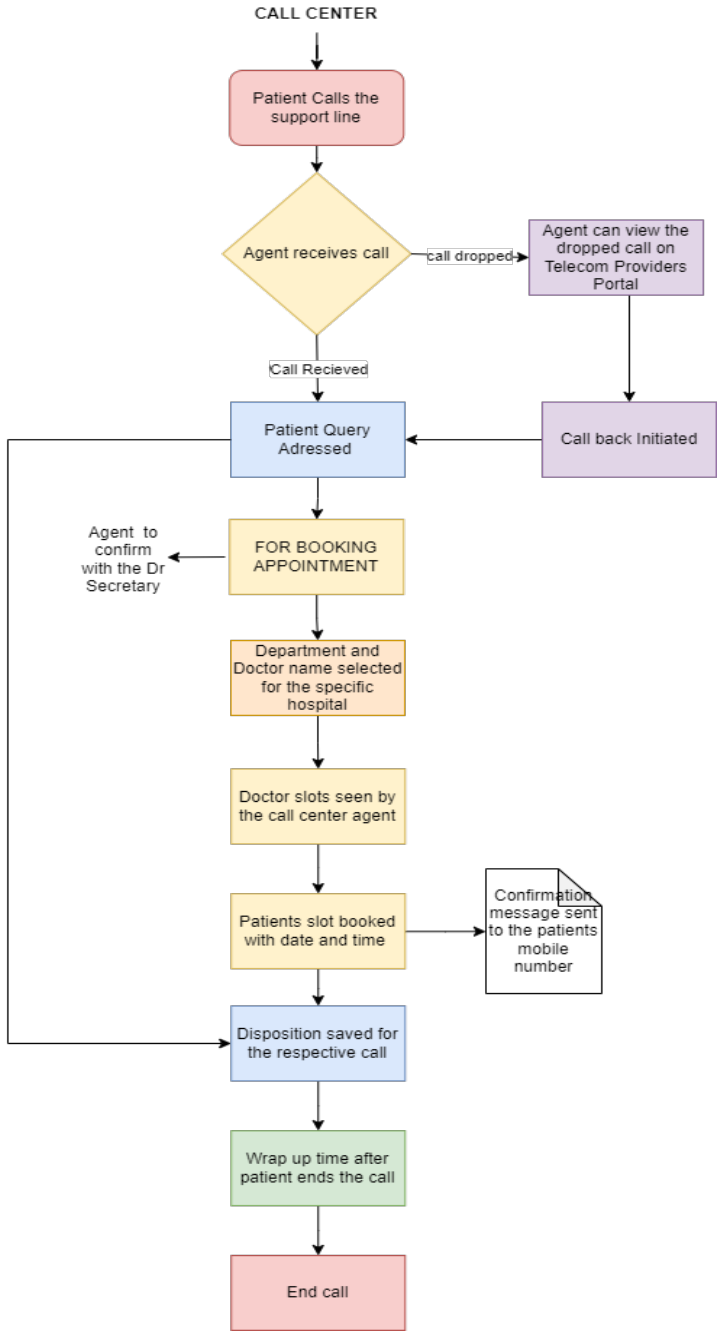
Test Case ID	**Cat-01**	**Test Case Description**			
Created By		Reviewed By		Version	1
Tester's Name		Date Tested		Test Case (Pass/Fail/Not Executed)	

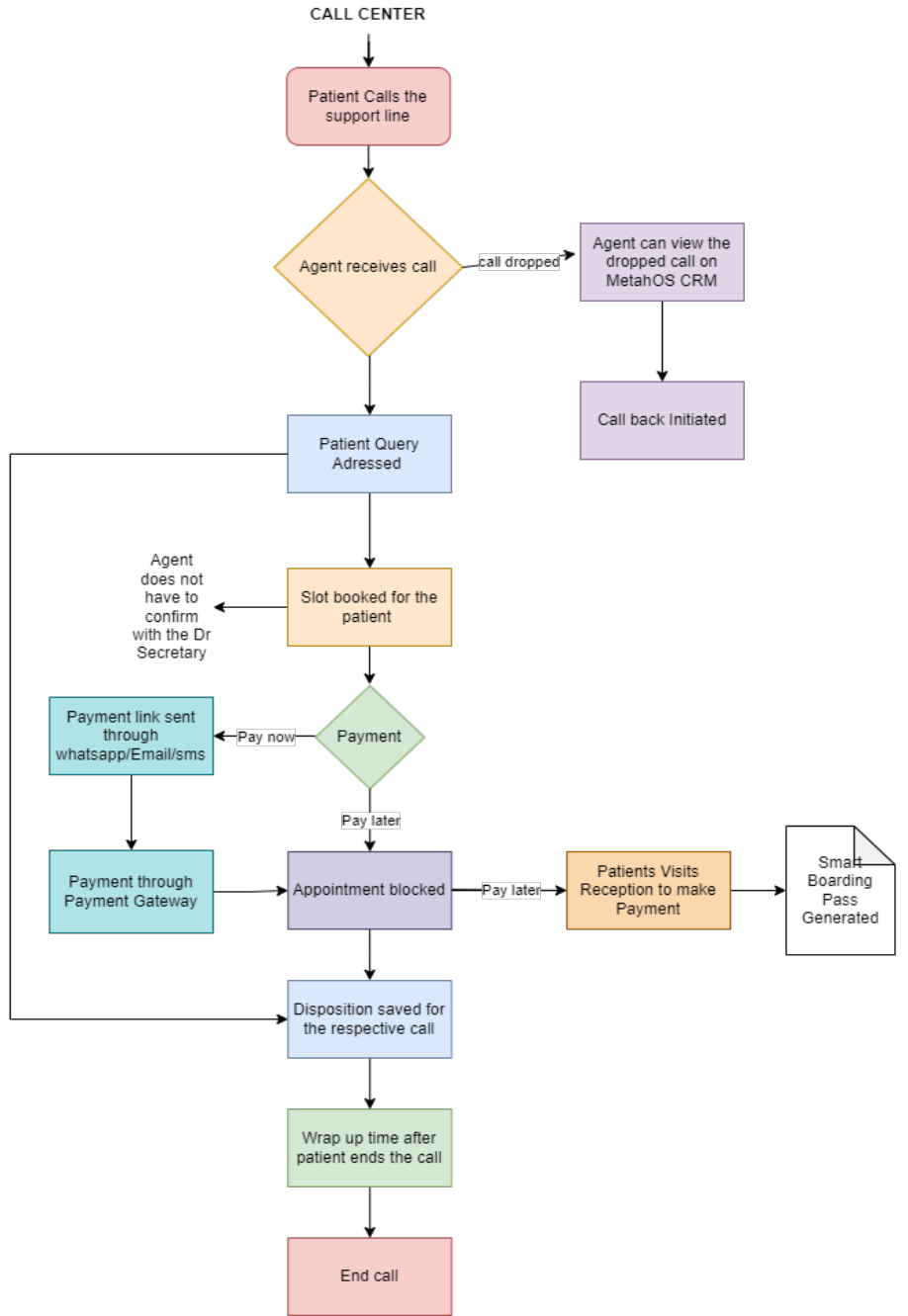
S #	Prerequisites:	S #	Test Data
Test Scenario			

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended

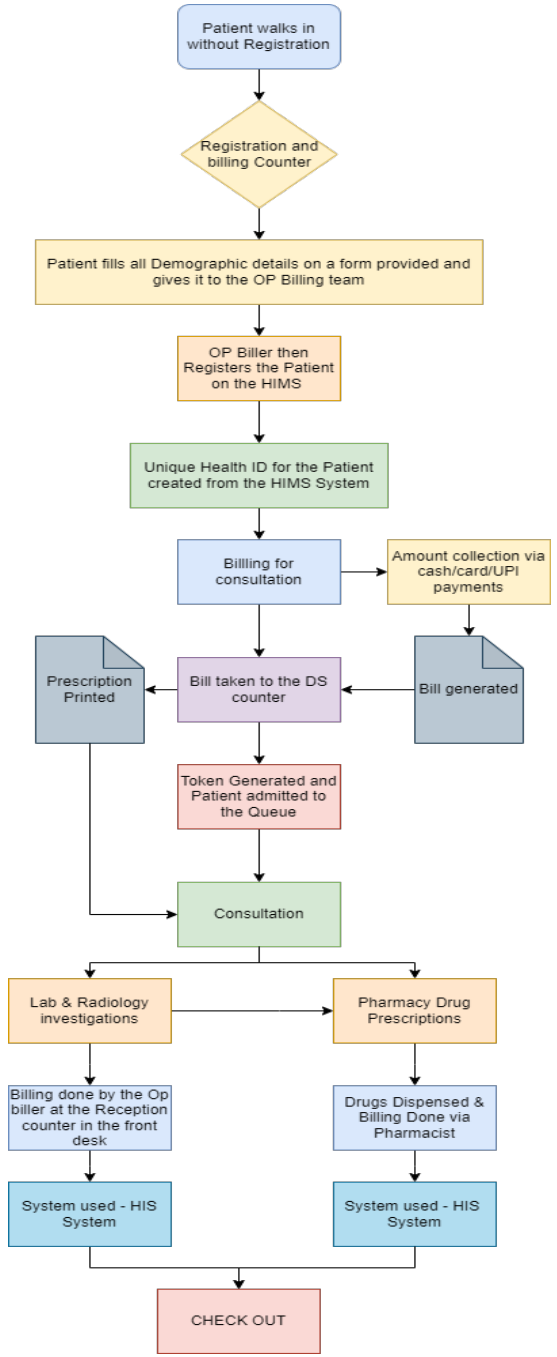
AUTHORITY SIGNATURE
Remarks

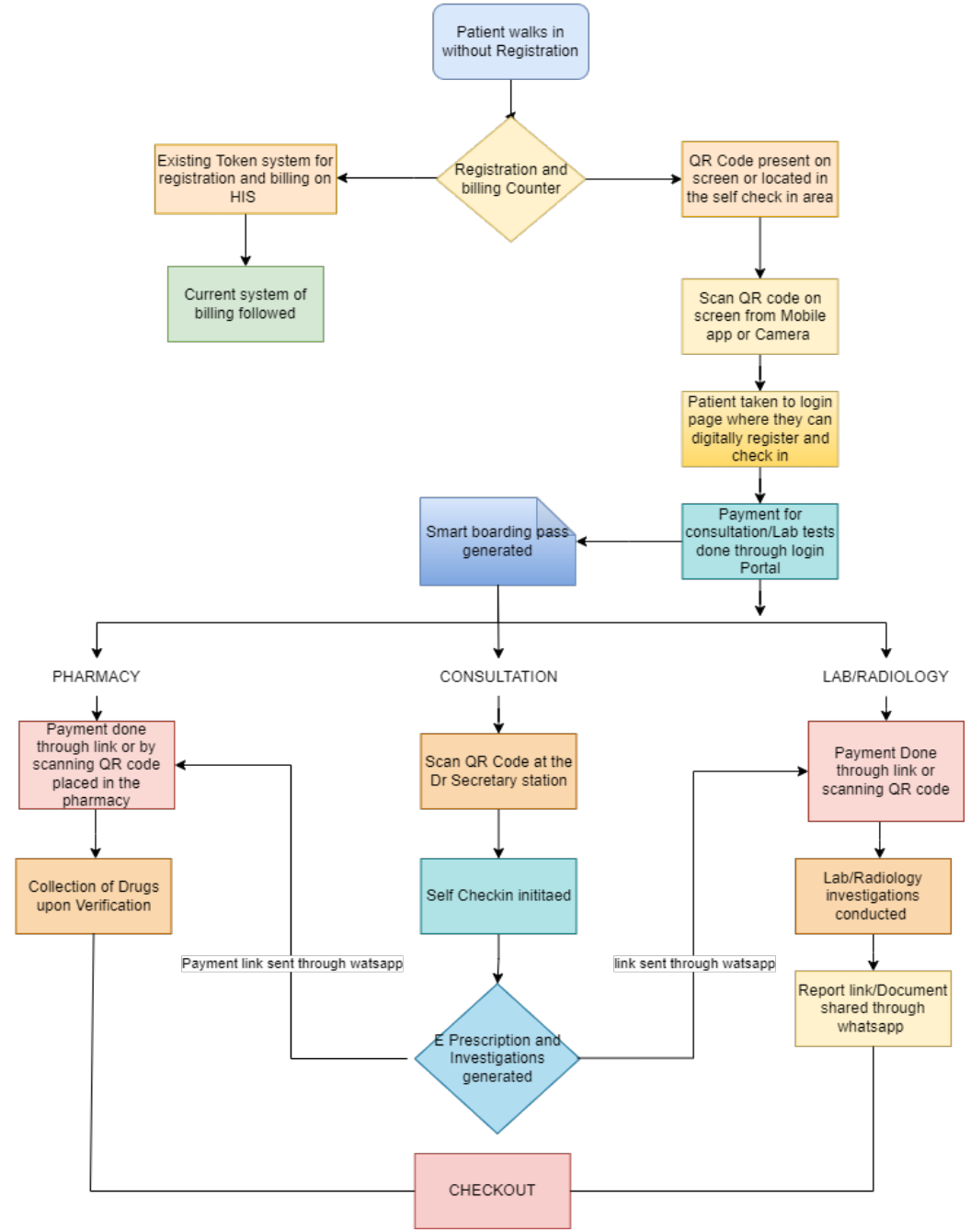
COMPARISON BETWEEN PRE-EXISTING WORKFLOW AND NEW SYSTEMS WORKFLOW FOR CALL CENTER





COMPARISON BETWEEN PRE-EXISTING WORKFLOW AND NEW SYSTEMS WORKFLOW FOR OPD

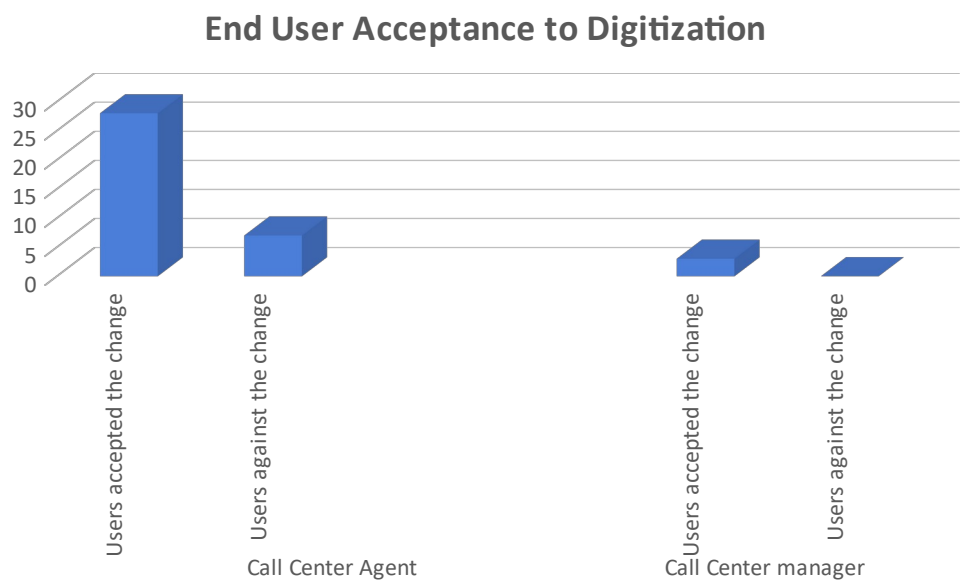




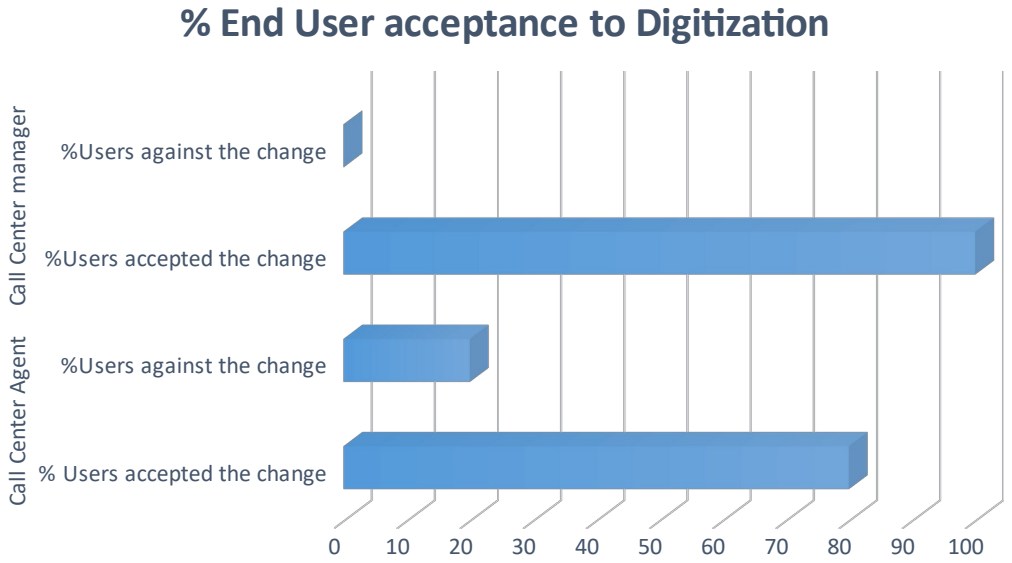
RESULTS

CALL CENTER (CRM AND WEBFORM)

Acceptance of Digital patient experience among Call Centre workforce

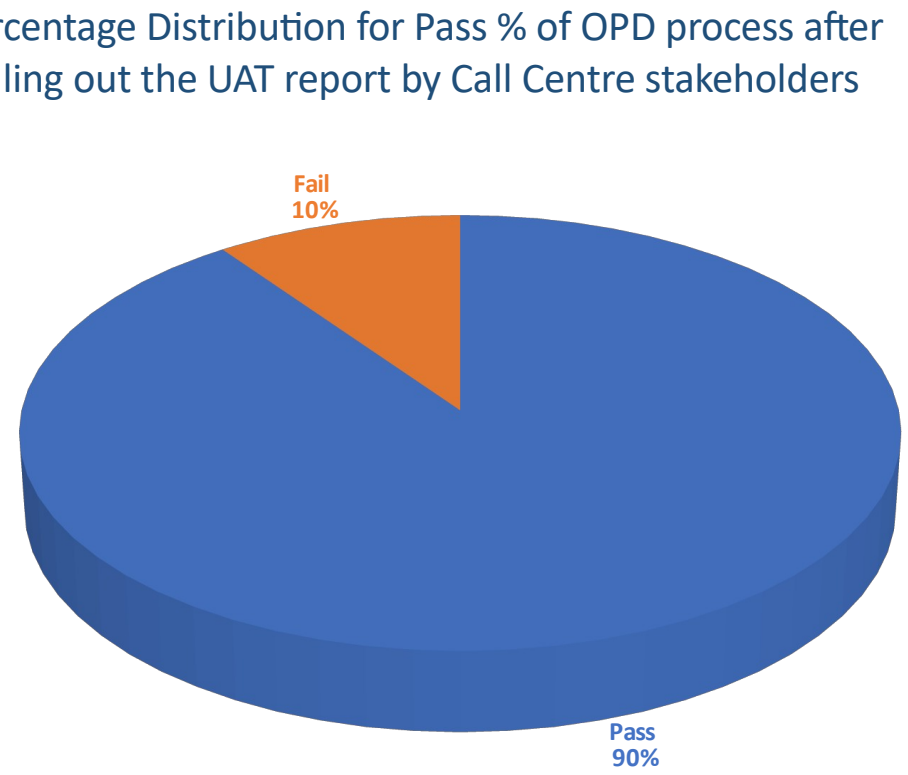


Percentage Distribution of Acceptance of Digital patient experience among Call Centre workforce

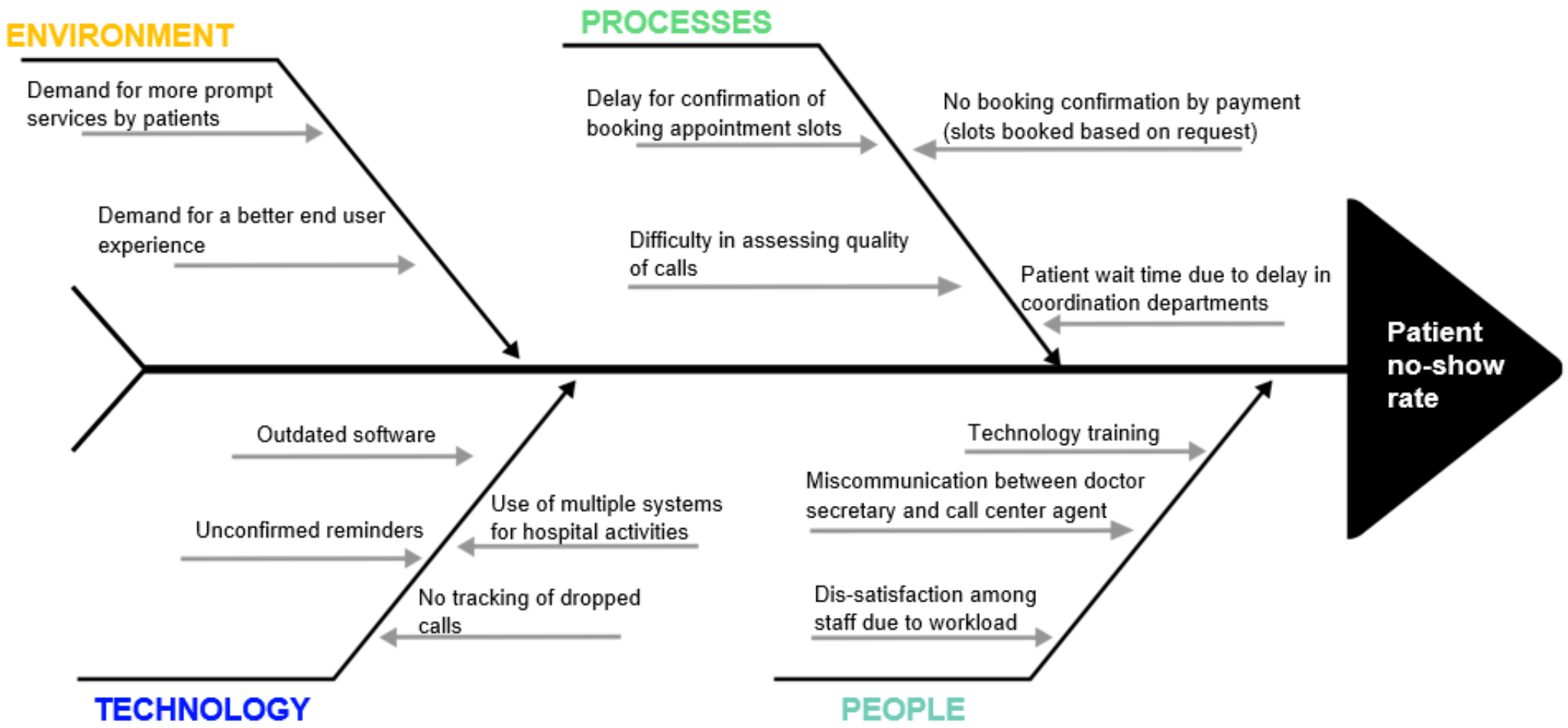


UAT Test Findings

The UAT spreadsheet created is filled by all users related to that spreadsheet and gives the aggregated pass % of the processes involved in the new system which allows the tester to understand the Barriers faced in implementation of the new system.



Fishbone Analysis for Call Centre Status

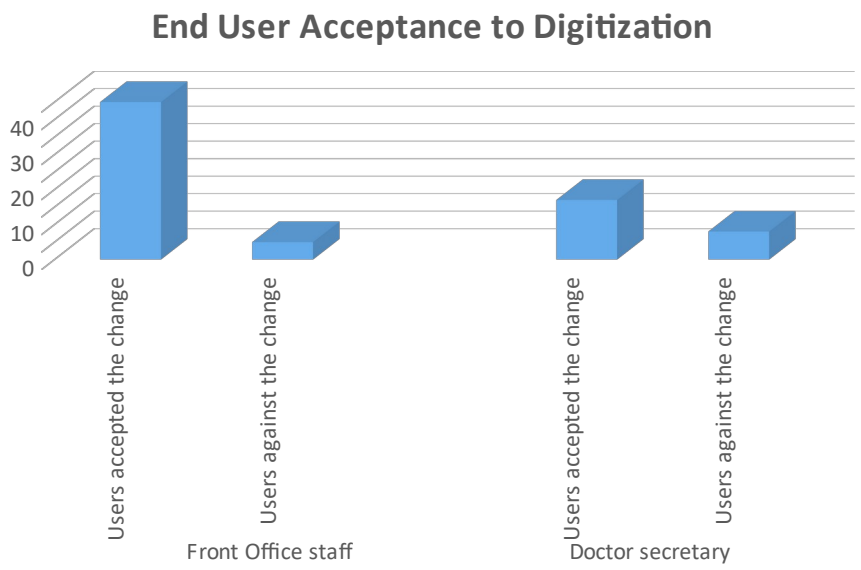


Barriers faced in Implementation of new Call Centre webform for Hospitals

PEOPLE	• Creation of training material for end users • Remote training for end users poses challenges • Agent allotment for soft Go live Difficult
PROCESS	• Intuitive systems with easy to understand process • Changes in workflow • Addition of new features can leads to higher chances of functional errors
TECHNOLOGY	• Integration with Telecom Operating system • Dependency on third party applications such as Telecom Provider and Patient Gateway portals

OPD: REGISTRATION/BILLING & QUEUE MANAGEMENT

Acceptance of Digital patient experience among front office staff and DS



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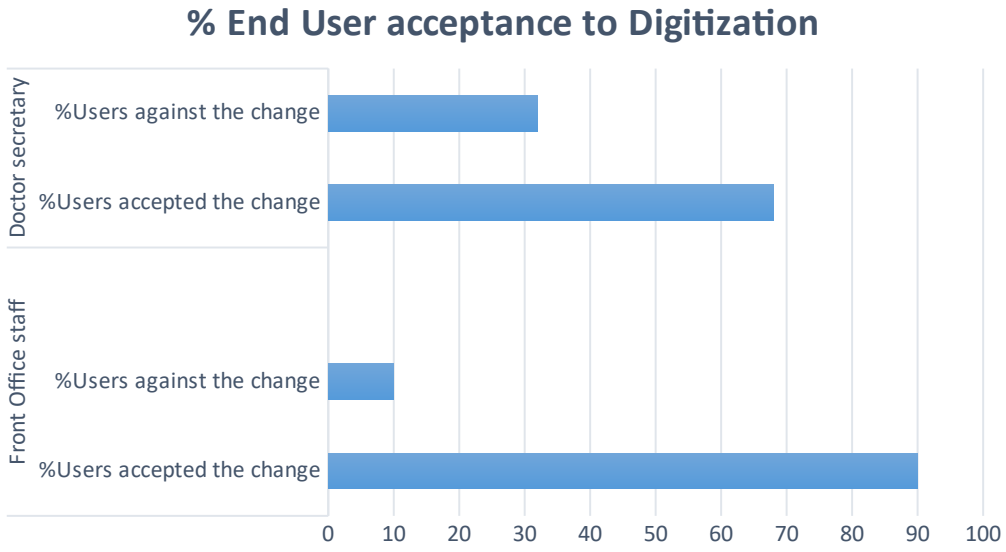

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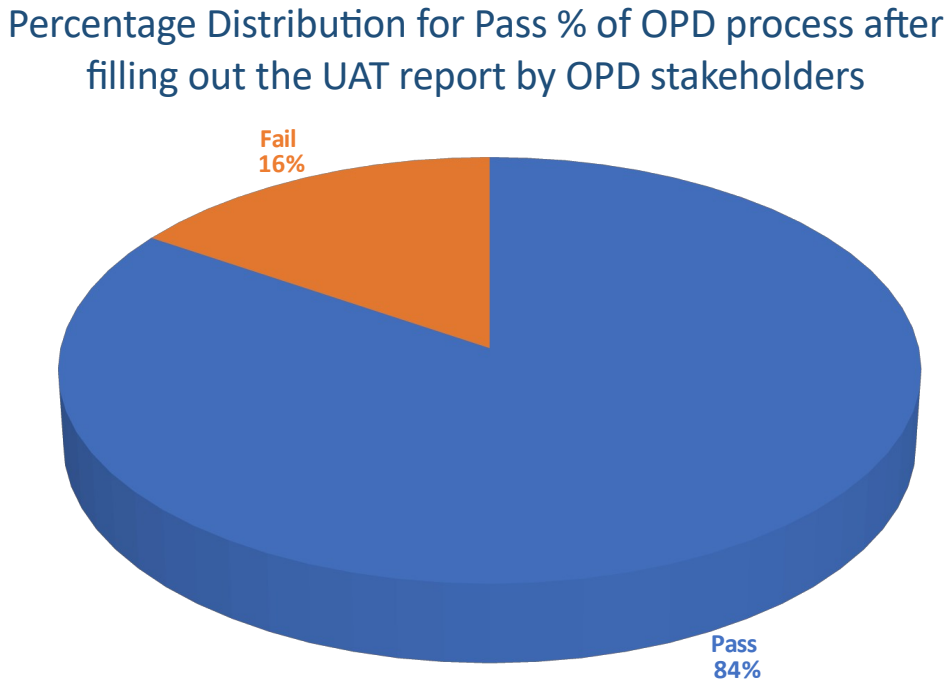
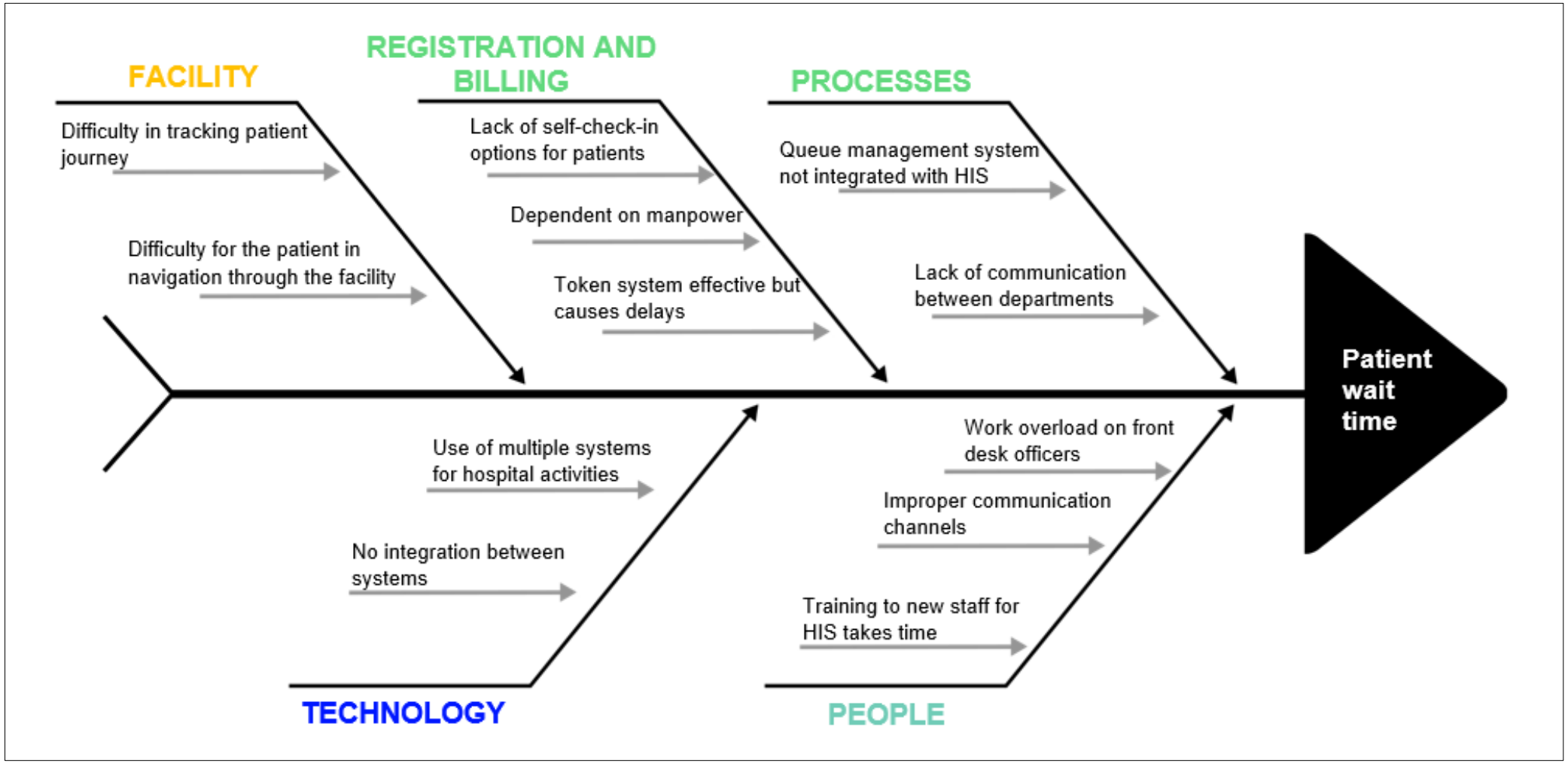


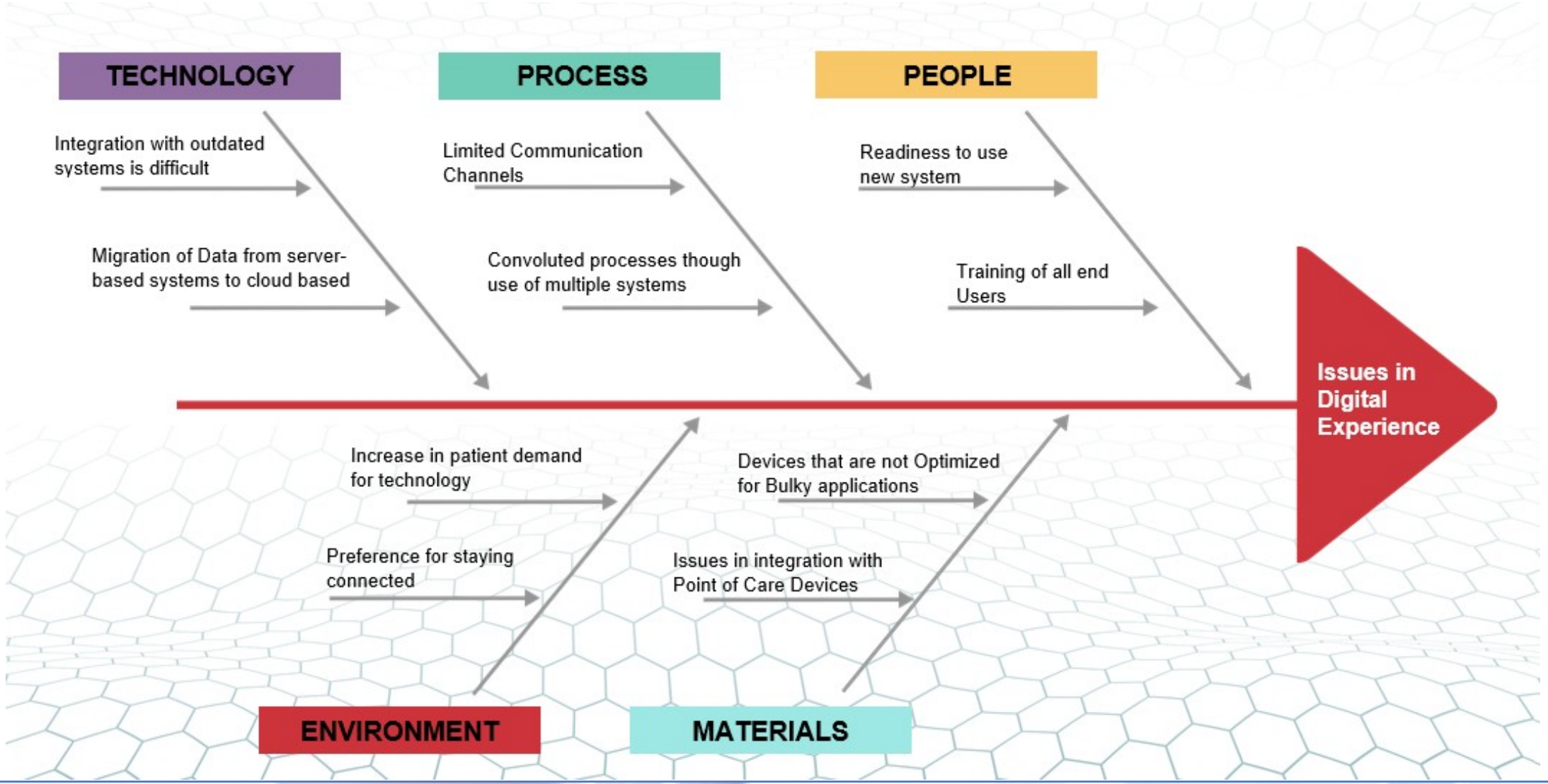
Fishbone Analysis for OPD workflow



Barriers faced in Implementation of new Self Check-in portal and Queue Management System for Hospitals

PEOPLE	• Creation of training material for end users • Remote training for end users poses challenges • Training needs to be conducted in line with implementation or end users may loose touch with the new systems • Change in terminology followed by previous software
PROCESS	• Intuitive systems with easy to understand process • Acceptance of new systems workflow • Difference in Billing through HIS system and self check in via payment gateway
TECHNOLOGY	• Integration with Pre existing HIS system • Dependency on third party applications such as HIS , CRM , Payment gateway portals

Fishbone Analysis of issues Faced during implementation of Digitization of Patient experience with regards to the processes followed in the hospital



CONCLUSION

- Healthcare moves quickly. Projects in health informatics and health IT frequently center on gathering, using, and managing electronic medical records. Project managers may experience team members being pushed in numerous directions at once as a result, which presents a problem.
- This research has taken into account aspects that organizations need to solve in order to successfully integrate technological solutions through the study technique in particular hospitals.
- Complexity, a lack of infrastructure, and bad interface design are major hindrances in the technological environment. By enabling more cooperation between the vendor and healthcare professionals, these obstacles can be overcome

RECOMMENDATIONS

- During the initiation phase the project Charter needs to outline the requirements for the Hospital clients and Project plan along with timelines needs to be aligned with the scope of work given.
- Communications with multiple stake holders in the duration of the Project becomes tedious so a point of contact must be provided by the client during the initiation phase to supervise over the processes going on.
- Sometimes Clients may have requirements that can cause to be a pain point from an engineering perspective , these requirements should be discussed internally with the team before presenting it forward to the Development team.
- Acceptance to digital transformation between multiple stakeholders is difficult especially in Hospital settings, Hence functionality of the user interface should be kept as intuitive as possible
- Avoid Overlaps between functionalities of two systems or it may confuse the end user when both applications are provided to them

Example : HIS system should perform all functions of billing while EMR system should perform clinical as well as operative functionalities. Bills generated on EMR while keeping the HIS system would only further confuse the end user.

- Thorough Collection of Data during assessment phase needs to be carried out as hospital workflows are majorly interconnected with one another .
- Test every possible scenario that can occur on the new system and incorporate most if not all the functionalities present on the legacy systems.
- Testing needs to be done at the engineering side as well as from the Projects team as well before the system can go into production
- Test run even in Production phase with stakeholders should be performed for the overall acceptance of the product and its functionality.

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